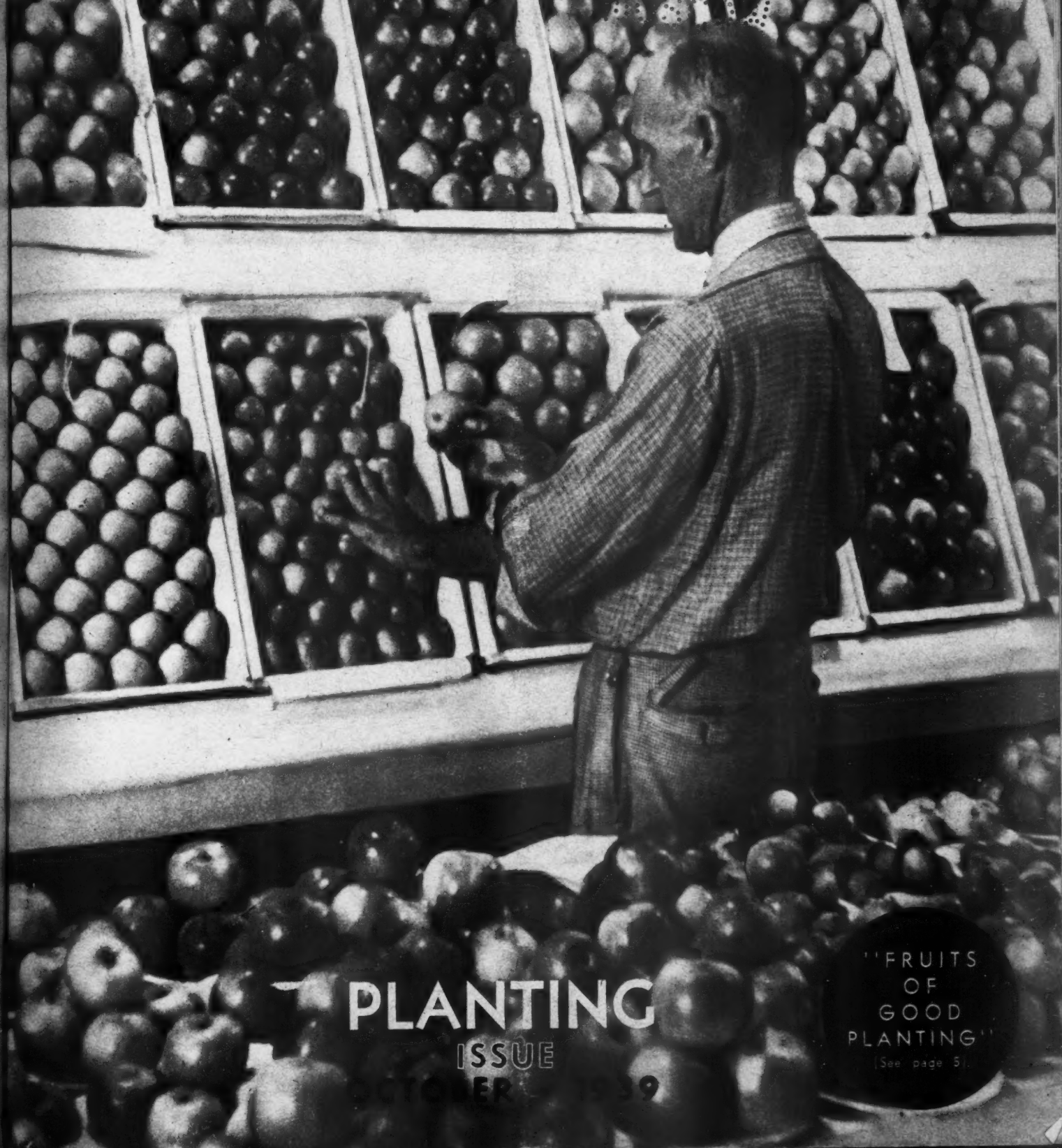


MORE THAN 15,000 CIRCULATION

AMERICAN FRUIT GROWER



PLANTING
ISSUE
OCTOBER 1939

"FRUITS
OF
GOOD
PLANTING"
(See page 5)

**NOW
MORE THAN EVER BEFORE
TIME SAVED
MEANS
EXTRA MONEY
FOR THE
FARMER!**

**SAVE TIME
SAVE WORK
SAVE MONEY**

WITH



Firestone

GROUND GRIP TIRES

WITH fall litters of pigs to watch, soy beans to thresh, corn ready for harvest, silage to grind, farm buildings to repair and paint, and manure to spread, October is a busy month for the farmer. An hour or two away from the farrowing pen may mean the loss of one or more pigs—yet other farm work must be done. Thousands of farmers have found that equipping their tractors and implements with Firestone Ground Grip Tires *saves two or more hours every working day*. And that's only one of the many savings that Firestone Ground Grip Tires provide. Order your new tractor and implements equipped with these greatest of all traction tires—or, call upon your nearby Implement Dealer, Firestone Tire Dealer or Firestone Auto Supply and Service Store and find out how little it costs to put your farm on rubber by changing over your present steel-wheel tractor to Firestone Ground Grip Tires.

Only FIRESTONE Ground Grip Tires Have These Patented and Exclusive Advantages:

Triple-Braced Traction Bars, which cannot bend, break or tear off.

Longer Tire Life, because of the patented Firestone Gum-Dipping process.

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Scientifically-Spaced Traction Bars provide better cleaning.

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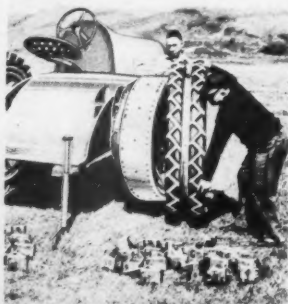
32% Greater Tread Bar Surface Contact assures increased pulling power.

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CALENDAR OF COMING MEETINGS and EXHIBITS

- Nov. 9-11—Bangor Apple Show, Bangor, Mich.—Riley Lynch, Sec'y, Bangor.
- Nov. 14-16—Minnesota State Horticultural Society annual meeting, Hotel Radisson, Minneapolis. Winter meeting Minnesota Fruit Growers Association, Nov. 16, in conjunction with society meeting.—J. D. Winter, Sec'y, Minnesota Fruit Growers Assn., Mound.
- Nov. 15-16—South Dakota State Horticultural Society winter meeting, Cataract Hotel, Sioux Falls.—W. A. Simmons, Sec'y, Court House, Sioux Falls.
- Nov. 16-17—Iowa Fruit Growers Association and Iowa Beekeepers Association annual meeting, Savery Hotel, Des Moines. Joint Horticultural banquet, Nov. 16.—R. S. Herrick, Sec'y, State House, Des Moines.
- Nov. 16-17—Wisconsin State Horticultural Society annual convention, fruit growers' section, Chamber of Commerce Rooms, Sheboygan.—H. J. Rahmlow, Sec'y, 424 University Farm Place, Madison.
- Dec. 1-2—Montana Horticultural Society 43rd annual meeting, Stevensville.—Geo. L. Knight, Sec'y, Missoula.
- Dec. 4-6—Washington State Horticultural Association 35th annual meeting, Wenatchee.—J. C. Snyder, Sec'y, Pullman.
- Dec. 5-7—Michigan State Horticultural Society annual meeting and apple show, Civic Auditorium, Grand Rapids.—H. D. Hootman, Sec'y, East Lansing.
- Dec. 5-7—New Jersey State Horticultural Society, Haddon Hall, Atlantic City.—Arthur J. Farley, Sec'y, New Brunswick.
- Dec. 5-7—Virginia State Horticultural Society 44th annual meeting, Hotel Roanoke, Roanoke.—W. S. Campfield, Sec'y, Staunton.
- Dec. 6-7—Oklahoma Pecan Growers Association annual meeting, Tulsa.—Frank B. Cross, Stillwater.
- Dec. 7-8—Oregon State Horticultural Society annual meeting, Hood River.—O. T. McWhorter, Sec'y, Corvallis.
- Dec. 12-14—Nebraska Horticultural Society annual meeting, Lincoln.—E. H. Hoppert, Sec'y, Lincoln.
- Dec. 13-15—Peninsula Horticultural Society annual meeting, Easton, Md.—T. F. Manns, Sec'y, Newark, Del.
- Jan. 3-5—American Pomological Society annual convention, in joint session with Massachusetts Fruit Growers Association, Worcester, Mass.—H. L. Lantz, Sec'y, APS, Ames, Iowa; W. R. Cole, Sec'y, Massachusetts Fruit Growers Assn., Amherst, Mass.
- Jan. 4-5—Maryland State Horticultural Society annual meeting, Hagerstown.—A. F. Vierheller, Sec'y, College Park.
- Jan. 9-11—Indiana Horticultural Society annual meeting, Lafayette.—R. L. Winklepeck, Sec'y, Lafayette.
- Jan. 9-12—New York State Horticultural Society 85th annual meeting, Rochester.—Roy P. McPherson, Sec'y, LeRoy.
- Jan. 16-18—Pennsylvania State Horticultural Association annual meeting, Harrisburg, in connection with Pennsylvania Farm Show.—J. U. Ruef, Sec'y, State College.
- Jan. 17-18—Maine State Pomological Society winter meeting, Lewiston.—E. L. White, Sec'y, Bowdoinham.
- Jan. 24-26—New York State Horticultural Society eastern meeting, Kingston.—Roy P. McPherson, Sec'y, LeRoy.
- Feb. 7-8—West Virginia Horticultural Society 47th annual meeting, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

OCTOBER, 1939



• THE TRUCK OF VALUE •

GET TO MARKET *Quicker* WITH GMC TRUCKS

A GMC can beat any other truck built—in or out of the orchard! These *Super-Powered* trucks accelerate faster, get through traffic quicker, make better time on hills. You can haul more loads per day—that's as good as having extra truck capacity for your rush season! And your operating costs are lower . . . GMCs actually use *less gas* than other trucks that are slower. See your GMC dealer before you buy your next truck. You'll be amazed when you see how much more value you get in modern GMC trucks.

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Our own YMAC Time Payment Plan assures you of lowest available rates

GMC TRUCKS

TRAILERS - DIESELS

Here's a tread that PROVED ITS SUCCESS

years before
the first rubber tire for
tractors was built



LIKE THIS — Steel wheel makers for years have used designs with separate lugs that stay clean.



NOT LIKE THIS — Ever clean a horse's hoof? Then you know how pockets pack with dirt and mud.



DOES the tread on that Good-year Sure-Grip look sort of familiar?

That's reasonable, because you've seen the same principle of open bar construction used for years on steel wheels.

Look at it and you'll see all the lugs are separate. No corners, no mud traps to fill up.

You never saw steel wheels with lugs that made a lot of pockets where dirt could pack.

So we figured a rubber tire ought to have a tread that would stay clean too.

That's why we built the Sure-Grip. And the Goodyear Sure-Grip is the tire for you, for the following reasons:

First, it's *self-cleaning*. No tread can grip when it's all clogged up. Here's a tire you can use in soft ground, or on sod that's

wet with dew early in the morning.

Second, *it bites in*. Notice how every lug stands by itself — without "bridges" of rubber between lugs to act like sled runners. Notice also that these lugs are far enough apart, so every one gets a chance to "bite."

Third, *all lugs are even-spaced*. That means even pull, no slip-and-grip to cause jerks and start spins.

Of course we built this tire for long life. We brace every lug by broadening the base — just like you'd build a dirt dam in a creek, broad at the bottom, tapered toward the top.

You can add it all up as we do in the picture of that tire — no mud traps — no jerks — no lug tear — and when you get that, mister, you've got the kind of tires you want on *your* tractor.

THE GREATEST NAME IN RUBBER

GOODYEAR

SURE-GRIP—the Self-Cleaning Tractor Tire

NUT GROWERS MEET

THE Northern Nut Growers' Association held its thirtieth annual meeting in Rockport, Ind., September 7-9. About 60 attended the sessions. Papers were presented on various phases of nut culture and these will be reviewed from time to time in this column.

Considerable time was devoted to the field trip on which several plantings of nut trees were visited. In the city of Rockport was an especially fine planting of young pecan trees. These had received excellent care and in addition to being handsome ornamental trees, had borne substantial crops of pecans. On the farm of Harry Weber a large commercial planting of walnuts, pecans and hickories was coming into bearing. J. F. Wilkinson had a fine collection of pecans and pecan-hickory hybrids. Among the hybrids, Pleas was noted as being unusually handsome.

The third day of the meeting was devoted to a field trip to the pecan groves on the bottom lands of the Wabash River near New Haven, Ill. Here are immense groves of native pecan trees on land which overflows every year. The nuts are harvested each year and are a substantial source of revenue from lands not suitable for other crops.

The 1940 meeting of the association will be held in Roanoke, Va., the last three days of the week in which Labor Day occurs. At this meeting chestnuts will be a major attraction.

Officers elected were as follows: President, Dr. A. S. Colby, University of Illinois, Urbana, Ill.; vice-president, H. F. Stoke, Roanoke, Va.; treasurer, D. C. Snyder, Center Point, Iowa; secretary, G. L. Slate, Geneva, N.Y.—GEORGE L. SLATE.

NEW PEAR WINS GRAND SWEEPSTAKES PRIZE

A NEW PEAR was unanimously awarded grand sweepstakes prize over more than 500 new fruit entries at the 1939 Summer National New Fruits Show sponsored by Stark-Burbank Institute of Horticulture, Louisiana, Mo., which offered \$1500 worth of prizes for the most promising new fruits.

Apparently this prize-winning pear has all the characteristics which go to make up a valuable commercial variety. Filling one of the greatest gaps in horticulture—the need for a high quality pear ripening before Bartlett, of large size, beautiful appearance, delicious flavor, hardness, heavy bearing and resistance to blight—this new pear should find a welcome in the orchards of the country.

Mrs. Mary Milner of Salt Lake City entered the pear and says that her father planted the seed which started this pear towards possible commercial glory in their backyard over 40 years ago. Twice the tree almost met with disaster when horses leveled it to the ground. Each time it was patiently nursed back to health by Mrs. Milner. The resulting tree has never been attacked by the dreaded fire blight.

Stark Bro's Nurseries have secured exclusive control of this new pear and will apply for a U. S. Plant Patent on this new improved blight-resistant pear.

NATIONAL APPLE WEEK

THE International Apple Association has designated the period from October 31 to November 6 as national Apple Week. Halloween Day as usual marks the beginning of this celebration, the aim of which, according to R. G. Phillips, secretary of the association, is to give widespread publicity to the apple through various means and to increase the consumption of the King of Fruits.

AMERICAN FRUIT GROWER

The
NATIONAL FRUIT MAGAZINE

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U.S. TO HELP APPLE INDUSTRY MOVE THIS YEAR'S CROP

SECRETARY of Agriculture Wallace announces that the Federal Surplus Commodities Corporation is authorized to "buy surplus apples for relief use to help the apple industry carry out a program developed by grower representatives for improving marketing conditions for this year's large crop."

Thus the assistance of the U.S.D.A. is assured for the diversion of some 20,000,000 bushels of apples from the fresh fruit market. Origin of this concerted effort to boost apple prices was a get-together of industry leaders in Washington with Agricultural Adjustment Administration's Porter R. Taylor. Out of the two-day discussions came a unanimous vote asking apple growers to undertake the removal of marketable but sub-standard fruit from the fresh trade. For every bushel up to 10,000,000 thus diverted, the Federal Surplus Commodities Corporation will purchase a bushel of the higher market grades for relief and other non-commercial distribution. The minimum grade to be bought is combination U.S. No. 1 and U.S. Utility or an equivalent state grade.

Behind this plan, says Mr. Taylor, is the fact that "the apple industry is confronted with difficult marketing problems this year because of the large crop, heavy production of competing fruits and the uncertainty of the export situation. The buying of surplus apples for relief use is designed to supplement the efforts which growers themselves are willing to make in order to prevent serious losses."

Commercial production of apples this year is estimated at slightly over 103,000,000 bushels which, according to the U.S.D.A. announcement, is 25 per cent in excess of last year's production and seven per cent over the average production for the last 10 years. This season's exports are expected to be curtailed largely because of the large crops in foreign countries and European conditions. During recent years, the apple export market has taken around 11,000,000 bushels annually.

The Department of Agriculture's help in this marketing crisis is based on evidence that growers are working to wipe out causes for the present condition with a long-range program. National Apple Institute's president Kirk L. Keller has been chosen to lead this program. One grower from each state will assist him.

Because this plan definitely opens a way to solution of a serious market situation, AMERICAN FRUIT GROWER urges growers of the nation to co-operate for their own good as well as the good of the industry. Growers should immediately offer to help local and state committees, for the success of the plan depends upon how quickly it can be put into full operation.

"FRUITS OF GOOD PLANTING"

(See Front Cover)

Reflected in the quality fruit which annually graces the trays, plates and ring-face displays at hundreds of fruit shows throughout the country is a background of careful planting, a knowledge of expert cultivation and carefully planned selection. This month's American Fruit Grower cover illustration shows Ford Quigley, orchard manager of the widely known northern Ohio Halfred Farms, judging fruit at the Burton Fair, a yearly event in Ohio's fruit producing Geauga County. Photograph by Edward Meister, Jr.

Big-Scale Fruit Growers Add 4 New International TracTracTors to Fleet



Taking delivery on the four additions to the Watsonville Exchange TracTracTor fleet. Left to right: Joe Everett, ranch foreman; Norman Harmer, shop foreman; Mitchell Resetar, manager; and Mitchell Resetar, Jr., his son.

Past Performance Paves Way for Repeat Order

When the Watsonville Exchange, Inc., of Watsonville, California, recently purchased four new International Diesel TracTracTors for its large-scale fruit and vegetable-growing operations, *past performance* was a deciding factor.

This large repeat order came three years after a purchase of two International T-20 TracTracTors. These T-20's, in continuous use during three years, have given a good account of themselves in power, fuel economy, low upkeep, ease in starting, and accessibility. The firm also has two Farmall tractors for row-crop cultivation.

Managed by Mitchell Resetar, Watsonville

Exchange, Inc., is one of California's largest farming organizations. This season 600 acres of orchard, 842 acres of lettuce, and 165 acres of sugar beets are under cultivation.

* * * * *

If your work calls for economical crawler tractor power, you will find the answer in the International TracTracTor line. Six sizes—T-20, T-35, TD-35 Diesel, T-40, TD-40 Diesel, and the new 70-h.p. (drawbar) TD-18 Diesel. Call on the International Harvester dealer in your neighborhood and ask him for the full story about these sure-footed crawlers.

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INTERNATIONAL HARVESTER

THE NEW PEACH INDUSTRY IN SOUTH CAROLINA

By A. M. MUSSER

SOUTHEAST United States has grown peaches on a commercial scale since the early seventies, but it was not until varieties more suitable for growing under southern climatic conditions were discovered and more efficient transportation facilities provided that production assumed large-scale proportions. The Elberta and Georgia Belle varieties, discovered in 1870, and the Hiley, in 1886, provided the varieties that have formed a high percentage of southern production from that time up to the present day.

Georgia has been the leading peach producing state in the South and the second largest producing state of the whole country for many years, while California, with its great canning industry, has led all other states in bushels produced since peach statistics were first published in the U.S.D.A. Yearbook for the year 1909.

In 1930 the number of peach trees in the entire country was over 79,000,000, but by 1935 their number had decreased about 15 per cent. This decrease was largely due to drought and extremely low winter temperatures in the Midwest and East and to winterkilling, diseases, etc., in various parts of the South. Some decrease occurred in practically all of the producing states, except South Carolina. Replacements have been and are being made in most sections. Large acreage increases are also being made in some

districts, notably in Pennsylvania, Michigan and South Carolina.

South Carolina is divided on the basis of elevation and soils into three general sections, the Piedmont, Sandhills and Coastal Plain. Fifteen counties or one-third of all counties in South Carolina are now producing peaches on a commercial scale, with Spartanburg County in the Piedmont far ahead of the others in number of trees in commercial orchards. The next largest peach growing section in the State is known as "The Ridge" which lies largely in Saluda and Edgefield counties, part of which borders on the Sandhills.

In order to get a background for the great increase in peach planting in South Carolina, we must go back to the year 1920. At that time there were 26 bearing commercial orchards scattered over various parts of the State. During the planting seasons of 1921-22 and 1922-23 a great many more commercial orchards comprising over half a million trees were set in both the Sandhills and the Piedmont sections. This increase in planting was largely due to the fact that the first growers as a rule had been very successful and to a desire to get away from cotton as the main cash crop. The planting continued each year with 70,000 to 180,000 trees per year until 1935-36 when nearly 250,000 trees were set. The following year over

(Continued on page 17)

Left—Aerial view of two-year-old contour planted peach orchard. On easily erodible soils, contour planting and terracing is the most practical method of controlling erosion.

Below, center—Knee high in a good stand of Austrian winter peas as cover crop in peach orchard is Prof. A. M. Musser, horticulturist at The Clemson Agricultural College and South Carolina Experiment Station.

Bottom—Oldest peach orchard in South Carolina, planted in 1901. Rows were set on contour; slope averages from six to 15 per cent. Trees are still vigorous and produced this year one of the best crops of their history. Photographs, courtesy Soil Conservation Service.



AMERICAN FRUIT GROWER NATIONWIDE PEACH VARIETY SURVEY

Back of the increased activity in nationwide peach planting as pointed out by A. M. Musser in this issue, lies a studied plan on the part of each individual grower as to what varieties he sets in new plantings. To help growers work out their future plantings on a sound fact basis, AMERICAN FRUIT GROWER, making its Second Annual Variety Survey, asked 105 of the country's fruit nurserymen what varieties their customers have been ordering for new plantings. Because today's plantings reflect what probable production will be in seven to 10 years, growers can use facts in this survey to establish "analyzed" planting programs on a basis that will be in accord with future peach production.

DEAN HALLIDAY, Managing Editor.

FROM the time when peaches were first brought under cultivation thousands of years ago in China, the production of this fruit has spread throughout the world, until today it is probably the most universally cultivated of fruits. First records of the peach were made in China 2000 years before its introduction in Europe. Early Roman writers made frequent mention of the peach as one of their favored fruits. For years it was believed that Persia was the original home of the peach, yet it has been proved by historical records that the Chinese were the first to cultivate the peach from which our varieties have come.

Early settlers brought the first peaches to America. What kinds or types these early American peaches were is questionable. Through the years, though, there has developed an array of peach varieties large enough in quantity and differences to puzzle even those who have specialized in the study of varieties of this fruit. One authority states that there exists in this country more than 2100 varieties. But of this number, as with other fruits, there are only a comparatively few that stand out as being of commercial importance.

What these few are, how they compare in importance with each other, and to what extent they are being planted by commercial growers in different localities, are puzzling questions that prompted AMERICAN FRUIT GROWER to select peaches for this year's nationwide variety survey.

Because of their close relationship with peaches, nectarines were included in the questionnaire sent to 105 fruit nurseries throughout the country.

With a knowledge of what is being planted today, a forecast of what our peach production in the way of varieties will be in a few years is simplified.

To a peach that resulted when a seed of the Chinese Cling was planted

by Samuel Rumph of Marshallville, Ga., late in the growing season of 1870, goes the honor of being the nation's favorite variety by a wide margin. This variety, the Elberta, is known in every United States peach section. Being more or less tolerant of soil and climate, a year-after-year "repeater" in fruitfulness and a vigorous grower, it was expected that Elberta would assume a "sweepstakes" lead as most popular planting variety over all others. But newer varieties in this group have seriously contended the Elberta's domination during the past few years. Because of its more than half century of sustained popularity, in which its performance has met all challenges, Elberta merits its greater than three to one lead in the national rating for yellow-fleshed, freestone, midseason varieties.

Second to Elberta in this listing is Halehaven, a comparatively new variety which came from the technique of skillful plant breeding. Other varieties which make up the first 12 yellow-fleshed, midseason freestones are J. H. Hale, Golden Jubilee, South Haven, Early Elberta, Hardee, Red Elberta, Shippers Late Red, Early Crawford, Rio Oso Gem and Gage, in the order named.

Sectionally, Elberta is the midseason, yellow-fleshed, freestone or semifree leader except for the Northwest, where Red Elberta is first choice, and in California, where Rio Oso Gem heads the list. Golden Jubilee is most popular in the Northeast, where it stands second, but it ranks among the leaders in every section, dropping as low as seventh only in California. Halehaven is variable in its sectional popularity, being fourth in the Northeast, second in the Midwest, third in the North Central and southern areas and sixth in the Northwest, with no ranking in California.

Rochester is 10 times as popular nationally as its nearest competitor,

THESE VARIETIES LEAD PEACH PLANTINGS

To the Elberta, chance seedling discovered some 70 years ago in a small Georgia town, goes the honor of being the nation's most planted peach. Second to Elberta in national preference is Halehaven, barely 10 years out of a cross between J. H. Hale and South Haven. Although it ranks a weak second to Elberta, the rapid rise in plantings of Halehaven denotes variety characteristics which are likely to challenge Elberta as soon as the variety becomes better known in the nation's peach areas.

For the entire country, the yellow-fleshed freestones are the leaders. Top variety among the early sorts in this group is Rochester, and for the late varieties Late Elberta is the favorite.

Mikado (June Elberta) heads the yellow-fleshed clingstones, while Belle (Belle of Georgia) is the outstanding white-fleshed freestone with Champion a close contender. The white-fleshed clingstones are led by Early Wheeler and Mayflower.

Quetta and Victoria are the high ranking nectarine varieties.

Oriole, in the yellow-fleshed, freestone, early variety list. In the order of their standing, the other leading types in this bracket are Fisher, St. John, Dewey and Triumph. The early season yellow-fleshed, freestone leader in every separate section is Rochester.

At the head of the tabulation of late, yellow-fleshed freestones stands Late Elberta, which tops Krummel October, second place holder, by slightly more than a four to one differential. Runners-up in this group include Late Crawford, Hal-Berta, Salberta, Gold Drop, Salwey, August, Lemon Free, Crosby, Halate and Smock. Late Elberta carries its first place rating into the sectional breakdown, where it is bettered only by Late Crawford in the Northeast and South, Salwey and Krummel October in California and Late Crawford and Salwey in the Northwest.

In the yellow-fleshed, clingstone classification, Mikado (June Elberta) is the two to one favorite. Other varieties attaining a place among the first nine of this group on a national basis are Peaks, Palore, Arp, Marigold, Sellers, Phillips, Tuskena and Buttercup. Most varieties of this group are planted in the South and California.

ROWER PRESENTS VARIETY SURVEY

Meeting challenge after challenge in its long colorful career, Elberta has emerged the wide-margin favorite among the nation's peach growers, as pointed out by the digest of this year's AMERICAN FRUIT GROWER survey.

Southern orchardists, as indicated by their tree purchases, prefer Mikado and Arp, with Frank, Chilon and Elberta Cling also in the running. The selections of California growers have popularized Peaks, Palore, Sellers, Phillips and Tuskena.

Although Champion is reported as most popular for planting of the white-fleshed, freestone types in all sections except the Northeast and South, Belle (Belle of Georgia) outclasses it in national totals due to heavy planting in the latter areas. Standing of the white-fleshed, freestone peaches nationally corresponds closely to the sectional choices. The national lineup, after Belle and Champion, is Hiley, Carman, Delicious, Cumberland, Alton, Radiance, White Hale and Iron Mountain, to complete the first 10.

Probably the greatest variation in sectional planting for any one group occurs for the white-fleshed clingstones. Greensboro leads in the Northeast, Early Wheeler (Red Bird) in the Midwest, South and North Central states, Mayflower in California, and Alexander in the Northwest. Place ratings in the South, where more stock of this peach type is being set than in any other section, are the same as brought out by the nationwide tabulation. From first place through seventh, the varieties are Early Wheeler, Mayflower, Early Rose, Heath Cling, Greensboro, Uneeda and Alexander. Some growers in Texas and Florida are concentrating on the white-fleshed, freestones Hart Cling and Best May as their planting choices.

Planting of the so-called novelty

peaches including Blood Cling (red-fleshed clingstone), Peento (white, sweet-fleshed clingstone) and Climax and Pallas (white, sweet-fleshed freestones) has practically ceased when compared to that of the popular commercial types. What planting of the Blood Cling is being done is concentrated in the South, with scattered, extremely light setting of this type in the Northwest, Midwest and North Central states.

Among the nectarines, Quetta and

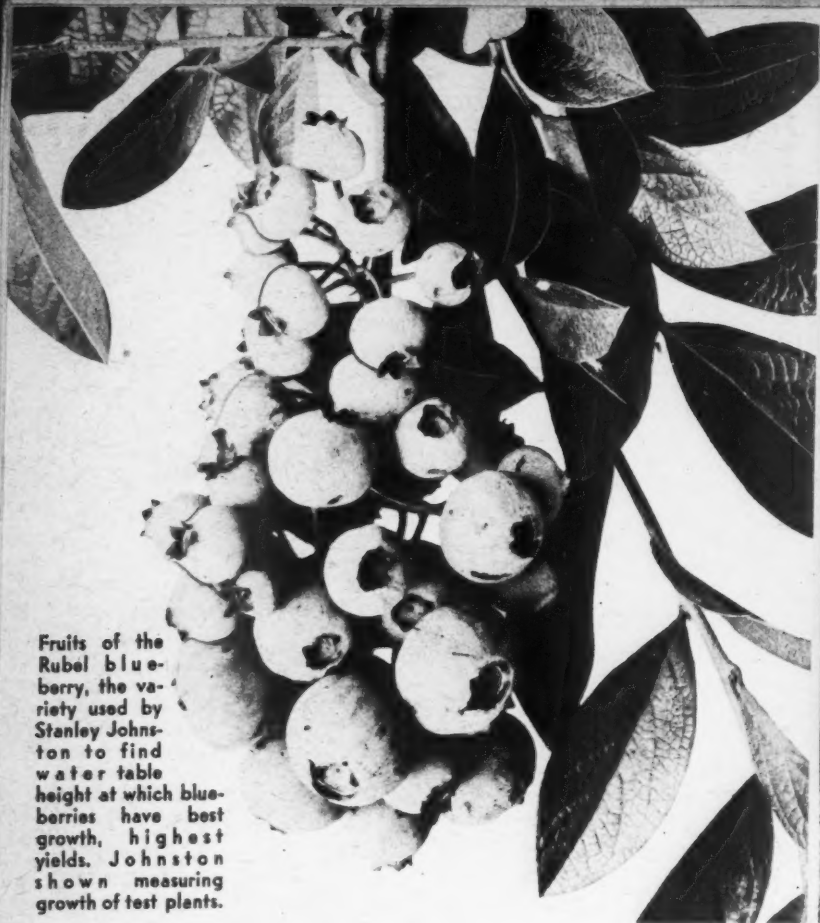
That there are several new and popular peach varieties having special merit is an undisputed fact and to some who study this survey it may seem strange that these are not mentioned here. But it must be remembered that these newer sorts have not yet been completely tried commercially and until they are fruit growers will not be planting them in quantities large enough to make them stand out in any study of national planting developments.
—EDITORS.

Victoria are almost tied, with the Quetta holding a slight lead. Other nationally prominent varieties of this fruit, which is actually a smooth-skinned peach, are Gold Mine, Sure Crop, Fox, John Rivers, Hunter, Boston, Red Roman and Garden State. From California, where nectarine production has assumed its greatest importance, it is reported that John Rivers, Quetta, Gold Mine and Sure Crop are being planted in the order given. Hunter and Victoria are most popular in the Northeast, while Sure Crop stands out in the South, and Quetta, Gold Mine and Fox in the Midwest.

Miscellaneous peach varieties not already mentioned which rank highest and the states reporting them are Babcock, California and Texas; Jewel, Florida; Frank, Texas and Kansas; Polly, South Dakota and Maryland; Halford and Sims, California.

When asked which varieties they would recommend culling from their peach stocks, the nation's fruit nurserymen sent in a list of more than 100 varieties. One tree producer emphat-

(Continued on page 15)



Fruits of the Rubel blueberry, the variety used by Stanley Johnston to find water table height at which blueberries have best growth, highest yields. Johnston shown measuring growth of test plants.



BERRIES

WATER TABLE

Cultivated blueberry growers and experimenters were quick to discover that this fruit thrives best under conditions too wet for most small-fruits, that good drainage, too, is required. What they didn't know, however, was at just what height the water table, or top of that portion of the soil which is more or less constantly saturated with water, should be to obtain best blueberry plant growth.

Some eight years ago, Stanley Johnston and his co-workers at the South Haven (Mich.) Experiment Station set themselves to the task of finding out where the water table should stand to give blueberries their best chance to grow and yield. They devised a system of four tanks into which soil was placed. Plants were set in the soil and for eight years the water has been held at the same height in each of four tanks. These heights, which correspond to water tables under field growing conditions, range from six through 14 and 22 to 30 inches below the surface of the soil. Johnston says that during the first season or two the test was conducted there was many a guess as to which set of plants would take and hold the lead. Today the plots definitely show that a water table of approximately 14 inches below the soil surface is the best for blue-

berries, at least under southwestern Michigan conditions. It appears from the test plot that a water table rising to within six inches of the soil surface is too high. Plants in the tank where the water is held at this height had poorest growth of the four groups.

Plants in the tank where the water comes to within 22 inches of the top of the soil are next to the 14-inch plot in growth, and the 30 inches from soil surface plot has plants that are in third place for speedy growth.

In all cases, yields of the plants correspond to their growth. Rubel is the variety used in the eight-year test which will be continued for further observation.

NEW PRODUCTION AREA

It seems only natural that cultivated raspberry production would develop in a land that for years had been overrun with wild red raspberries. That's what happened about twenty years ago in a region around the western end of Lake Superior known as the Head of the Lakes. Those growers of two decades ago received high prices for their berries which resulted in an invasion of men who wanted to share in the wealth from canes. By 1933, prices had dropped, many acres were plowed down.

To Duluth during the winter of 1933-34 went 67 alert growers who were tired of the low berry prices and were determined to do something about it. Their discussions resulted

in formation of the Head of the Lakes Fruit Growers' Association. This new group started looking for outside markets and uncovered the fact that berries from their section are really superior in size, color and shipping quality to those from many another production area, that their crop harvest peak comes on after others are over in the area east of the Rocky Mountains and that the crop is ready for market just before the late crop of the Pacific Coast states.

Today practically all of the production on the Head of the Lakes is shipped to outside markets where the association members obtain better-than-usual prices. As might be expected, membership in the organization is increasing yearly and many idle acres are again being planted. In 1938 the association built and paid for its own warehouse. Before this time space was rented for handling of the crop.

Minnesota is a ranking raspberry producing state east of the Rockies and observers agree that the Head of the Lakes section will soon be the State's largest raspberry area.

Reasons in back of the transformation of this cut-over lumbering and mining section are based probably first on the low price of the land. The development of efficient land-clearing equipment in the past couple of years means that some machines are now clearing land in this area at an average rate of an acre an hour, with the cost running about five dollars per hour.

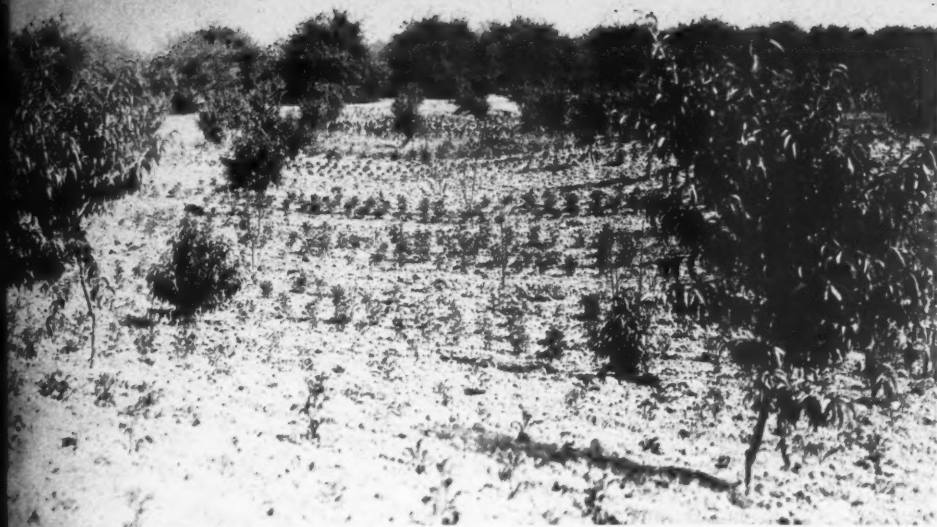
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"... it was found that a difference of five feet in orchard elevation was the difference between success and failure in some locations."

WITH everything to gain in the way of getting young orchards off to a head start, and practically nothing to lose, modern growers are being careful where they locate new plantings, looking ahead to the time when these trees will furnish a livelihood for them. No longer are these growers planting fruit on land that seems unsuited for any other crop; instead they are studying the needs of fruit trees and plants and are trying to satisfy these needs from the beginning.

Maryland horticulturist A. F. Vierheller pointedly remarks, "Soil is important. Plant only on the best fertile soil that you can. Don't try to get along with a poor soil; try to build it up and grow fruit at the same time. It is much easier and cheaper to *keep up* a soil than it is to *build up* a soil. Site is important. In New Jersey it was found that a difference of five feet in orchard elevation was the difference between success and failure in some locations. . . . We can't afford to set orchards on land that is poor and washy. If land isn't worth terracing or planting on contour, or doing something to keep it from going down the creek every time it rains, then it isn't worth setting to orchards."

If, then, time, effort and money are spent in obtaining the best possible site for the young orchard, it is only logical that the best available trees of new and superior varieties be purchased for planting stock. There's a world of difference in nursery stock, as any experienced grower knows. Fortunately, for the veteran as well as the beginner, reputable nurseries supply trees and plants that are actually as represented in their catalogs and booklets. Because the trees and plants that are bought for new plantings will some day mean an income for owners, it seems silly that there should be quibbling over a price differential of five or eight cents per plant between good, healthy, properly-rooted stock

PAGE 11

BETTER

SITE
SELECTION

PLANTING
METHODS

AFTER PLANTING
CARE

ORCHARDS

and smaller, uncertain plants. When trees are set and cared for over a two-year period and then die, there is no way to regain the lost time, no way to compensate for wasted expenses and effort.

Since the start of man's cultivation of fruits there have been hundreds of ways used for setting trees. One of the first instances of fruit research in this country dealt with planting. About 1845, a plant worker tried setting trees with a rubber tube attached to the largest root of each tree. These tubes were kept filled with water, and subsequent growth of the tube-fitted trees was far greater in proportion to those planted in the usual manner. Another theory that sprang up and was popular at the end of the last century consisted of trimming roots closely and jamming them into a small hole. European orchardists still dip roots of young trees in a thick mud mixture before planting. Today attention has been focused on the use of granulated peat moss in setting young stock.

All such practices are based on one fundamental principle. The roots of any plant must have contact with the soil moisture and soil particles, as well as with the air in the soil. Peat moss has been particularly effective in providing aeration and at the same time keeping moisture in contact with the roots of the developing plants. Because it promotes loosening of the soil through alternate freezing and thawing, digging of the tree hole in the

(Continued on page 23)

"If land isn't worth terracing or planting on contour, or doing something to keep it from going down the creek every time it rains, then it isn't worth setting to orchards."



APS

A PAGE CONDUCTED IN THE
INTERESTS OF THE AMERICAN
POMOLOGICAL SOCIETY

GREAT PLAINS FRUIT BREEDERS MEET

PLANT breeders and horticulturists from several provinces in Canada and from a half dozen midwestern states met at the University Farm, St. Paul, Minn., in August. The three-day session provided an excellent opportunity for fruit, vegetable and flower breeders to see the breeding work being done at the Minnesota Agricultural Experiment Station. Plant breeders at the University of Minnesota have developed work with a wide range of horticultural plants. Of immediate and more practical interest to vegetable and fruit growers is the work being done in connection with developing new horticultural varieties better adapted to the Upper Mississippi Valley.

Muskmelon growers around the Twin Cities have suffered excessive losses due to fusarium wilt. After three to five generations of breeding, specialists at the university have developed muskmelon strains which are very resistant to the wilt. Several of these look very promising. One melon in particular, of the netted honeydew type, with golden yellow flesh and an exceedingly small seed cavity, made a hit with the group who reviewed this work. Eggplant and squash have also yielded some very promising new things which are now ready for the seedsmen.

In the fruit line, the university fruit breeders have gathered together an immense amount of plant breeding material, and extensive work is being conducted with the apple, plum, peach, pear, cherry, strawberry and raspberry. The work in tree fruits is confined to the University Fruit Breeding Farm at Excelsior. More than 200 acres are devoted to this excellent program. Some of the most interesting developments deal with the introduction of new varieties. The Beacon apple, originated at the fruit breeding farm, made an excellent showing. The fruit of the Beacon ripens about the time of Duchess and is of excellent size, fine red color and

of good quality to eat out-of-hand. This new apple as grown in Minnesota certainly is superior to the old Duchess. The Wedge apple for the September trade seems to be promising, particularly from the standpoint



Dr. N. E. Hansen, well known for his fruit breeding work in South Dakota, inspects a bush of *Prunus japonica* well loaded with fine fruit at the University of Minnesota Fruit Breeding Farm.

of restaurant and hotel trade. Haralson is undoubtedly one of the hardest red apples in existence today. It is being planted on quite a large scale throughout Minnesota for local markets. Many hundreds of crossbred apple seedlings of known parentage are in fruit this year. A number of these are showing excellent character.

In the Upper Mississippi Valley, hardiness in the plum is comparatively easy to secure. Today the leading varieties which are being planted are known as the Japanese americana hybrids. The leading varieties are Underwood, Monitor, Superior, Embur, Kahinta and Waneta. Fruit breeders are now engaging in an effort to overcome their susceptibility to brown rot and to improve the cooking quality. At the Minnesota station, we saw plum-peach hybrids and Japanese-

americana-domestica hybrids. These hybrids tend to be sterile, but such hybrids, it is believed, are destined to be the forerunners of a new and superior race of stone fruits.

Prunus japonica, familiarly known as a small fruited bitter cherry, has, under the expert manipulation of the fruit breeders at Minnesota, yielded types which are producing large crops of fine flavored cherries nearly an inch in diameter. This is an entirely new development and may lead to far-reaching results in the field of cherry production.

Inbreeding with subsequent crossing and top-crossing procedures has developed new strawberries, several of which seem to be outstanding as to production, health and hardiness of plant, and beauty and quality of the fruit. New and improved strawberries seem definitely on the way as a result of this intensive type of breeding.

Through the co-operation of the Horticulture Department and the Department of Plant Physiology of the University of Minnesota, a method of treating the fruit of strawberries and raspberries with carbon dioxide has been developed. The fruit is placed in tight compartments, temperature is held at 60 degrees F. and a 25 per cent charge of carbon dioxide gas is placed in the compartment. This treatment prolongs the natural luster of the berries, tends to cut down deterioration due to rots and results in berries which hold up on the market several days longer than untreated fruits. This carbon dioxide treatment is now being used on a large scale by a co-operative fruit growers' exchange at Excelsior. The temperature of 60 degrees F. is favored rather than colder temperatures for the reason that when colder temperatures are used, moisture collects on the chilled fruit, which is an undesirable feature.

Now is the time to make your plans to attend the annual convention of the APS which is to be held in joint session with the Massachusetts Fruit Growers' Association at Worcester on January 3-5, 1940. The new books containing the proceedings of the Chattanooga, Tenn., meeting were mailed some time ago. We still have a supply for those members who have not yet renewed their membership for 1939. Send your remittance to the secretary, H. L. Lantz, Station A, Ames, Iowa.

H. L. Lantz
SECRETARY

OCTOBER, 1939

PART II

EXPERIMENTS carried on since 1933 at the Horticultural Farm of the New Jersey Experiment Station at New Brunswick have thrown some light on what may be expected from mulch applied at different times and in different amounts. The material used in all these tests was salt hay.

In these experiments mulch applied about the middle of November caused a distinct decrease in yields. Where the plants are to be properly covered, December 15 during most years is probably as early as the mulch can be applied with complete safety in New Jersey. If protection against early freezes is especially desired, it could be had safely by putting on a light application early, enough to protect but not to smother, and then putting on another application after the ground is well frozen.

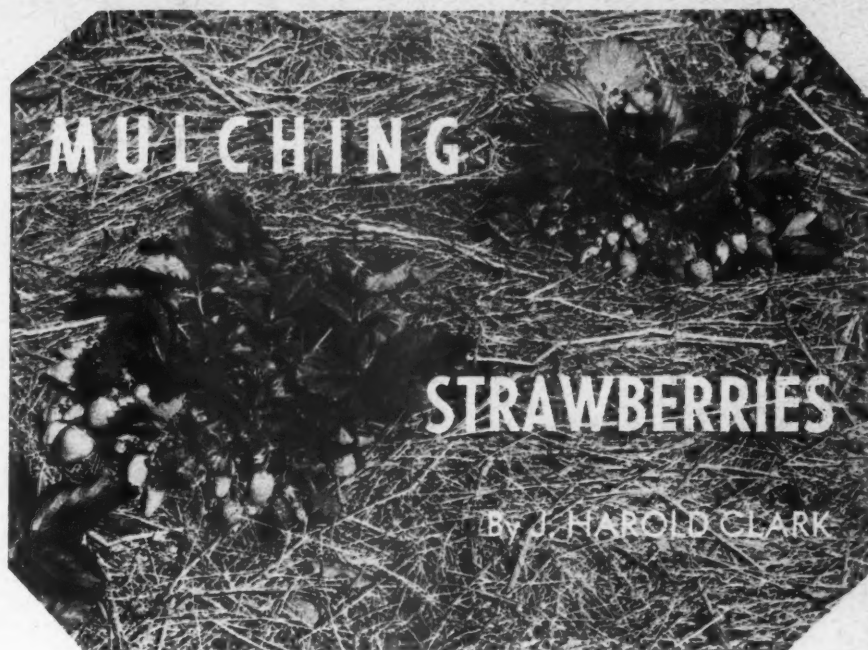
The effect of mulching on size of crop will vary with the season. The crop harvested at New Brunswick in 1935, for instance, was apparently not affected as to yield or size of berry by the presence or absence of mulch. During the spring of 1935, rainfall was so distributed that dry weather caused no apparent injury to unmulched plants. During the spring of 1936, however, there were periods of several days when the soil was dry and the temperature high and unmulched plants showed very definitely the effects of dry weather. Soil moisture determinations were made on June 2 on four mulched and four unmulched plots. The mulched plots averaged 16 per cent soil moisture and the unmulched plots 10.6 per cent. The leaves were smaller on the unmulched plots and lighter green in color and the fruit was distinctly smaller and generally unattractive in appearance. The yields are shown in Table I, the size of fruit being indicated by the average number of berries per quart. Since there was some variation in number of plants per plot, all the plants were counted and the yields computed on a per plant basis.

Table I—Yields of Mulched and Unmulched Strawberries at New Brunswick in 1936

Treatment	Plants Uncovered	No. of Plots in Each Treatment	Average No. of Qts. per Acre	Average Yield per Plant in Qts.	Average No. of Berries per Qt.
Unmulched	4	5.751	0.059	125.3
Mulched Early	8	6.564	0.084	103.6
Mulched Late	6	5.776	0.073	101.7

It is evident from the table that the best yields were secured by the use of mulch which was removed from the plants as soon as they started to show a slight yellowing of the leaves.

The various treatments in the 1935 and 1936 experiments included applications of two, three and five tons of



Everbearers fruiting in October with the fruit kept clean by a salt hay mulch.

salt hay per acre. The results did not indicate that an application of three or five tons per acre was any better than one of two tons, although the results might have been different if the drought had been more extreme. It is a little difficult to distribute as small an amount as two tons per acre so that it will uniformly cover the entire area. Probably 2.5 to three tons would be the most efficient amount to use to secure a uniform covering. In view of the fact that there was no consistent difference between plots receiving two, three and five tons per acre, these treatments are all averaged together in Table I.

As everbearing strawberries ripen at a time when the weather is likely to be hot and dry, it is usually necessary to conserve moisture by frequent cultivation or by a summer mulch. Such varieties ripen rather slowly and the fruit is especially likely to be sandy if the plants are cultivated. It has been the practice at New Brunswick to grow everbearers in hills and to mulch them as soon as they are well established in the spring. When this is done, it is necessary on soils of relatively low fertility to apply more nitrogen in the fertilizer than would be the case if the soil were clean cultivated. This extra nitrogen, which should be applied at intervals in some readily soluble form, is to compensate for that tied up by the microorganisms which cause the decay of the mulch and which may multiply very rapidly under ideal conditions. Such microorganisms are not so active during the winter and so it is usually not necessary to add extra nitrogen because of an ordinary winter mulch. The writer has observed, however, that even with winter mulch on spring bearing varieties, when moisture was adequate, the unmulched plants were

usually somewhat darker green and showed evidence of having slightly more nitrogen available.

Summing up the advantages and disadvantages of mulching strawberries, it would seem to be a desirable practice under most conditions, especially in those regions where there may be injury from winter cold or from heaving. Where mulching material is very expensive or where the beds are very poor, the economic factor might decide against mulching. From the standpoint of the industry as a whole, however, it is a mistake to allow berries that are sandy or muddy to reach the consumer and spoil his desire for what should be the most appetizing of fruits.

(This is the second of two installments of an article by J. Harold Clark, associate pomologist of the New Jersey Agricultural Experiment Station.)

STRAWBERRY FERTILIZATION

WHEN new strawberry plants begin to form at the start of the growing season, they should have an application of five pounds of a 5-7-5 fertilizer, broadcast per 100 feet of row and worked in with a hoe or cultivating tool, according to H. R. Niswonger, North Carolina horticulturist. As a supplemental operation to the fertilizing, Niswonger advises that new plants should be spaced to six inches apart in the plant row and not allowed to take root in the middles. All extra plants, he says, should be removed after the row has been filled with new plants. More large berries can be produced by keeping the plants from becoming matted in the row. Niswonger also recommends equal parts of cottonseed meal and nitrate of soda for strawberry fertilization.

STATE NEWS

MARYLAND—B. Carlisle Barnes of La Plata has built a small sloping table about one foot wide and one and one-half feet long, with a canvas bin and a canvas tube at the lower end of the table. The idea is that when small purchases of apples are made, the fruit is placed in the bin, the canvas tube is placed inside a large sack, and the fruit may be fed into the sack carefully, easily and quickly. The table is so small and light that it may be carried in one hand to any part of the fruit stand or packing house.—A. F. VIERHELLER, Sec'y, College Park.

MINNESOTA—Relatively good crops of strawberries and raspberries this year resulted in a marked increase in the quantity of berries packed in refrigerated storage lockers. There has been a rapid increase in the number of locker storage plants erected in Minnesota during the past two years. Almost all communities now have locker storage facilities, the total number of these plants in the State being close to 200 at the present time. One plant estimated over 10 tons of berries were packed in their storage lockers this year.—J. D. WINTER, Sec'y, Mound.



ILLINOIS—Faced with collapse of market prices, grower Frank E. Trobaugh rushed his peaches into the refrigerated storage on his farm rather than to market. When prices rose, he sold his peaches, netting a nice profit.

The Trobaugh storage near Carbondale, completed in the fall of 1938 (see page 5, July issue), was the first grower-owned refrigerated unit built in the southern fruit producing region.

NEW YORK—Removal of headquarters from Poughkeepsie to New York City has brought representatives of the New York and New England Apple Institute into closer contact with the apple trading center. Thomas H. O'Neill, whose title formerly was field representative, is now manager. John Chandler has replaced John Lyman as president, the latter being named to the board of directors. Financial stability enjoyed by the institute will make possible the broadening of promotional activities, including advertising.

MONTANA—The year 1939 will go down in the records as being one of the worst insect pest years the State has known.—GEO. L. KNIGHT, Sec'y, Missoula.

OKLAHOMA—Central Oklahoma was rewarded with a good peach crop this year. Many new peach plantings have been made in the State during the past two years and peach production is scheduled for a considerable increase as these trees attain full bearing age.—FRANK B. CROSS, Sec'y, Stillwater.

OHIO—Well illustrated and clearly written, "Farmer Co-ops in Ohio," a bulletin just issued by the Farm Credit Administration, gives a bird's-eye view of all of the major agricultural co-operative developments in the

State. It has been especially prepared for the information of farmers who are members or prospective members of existing co-operative organizations. Copies may be obtained free upon request as long as the supply lasts by writing to the Division of Information and Extension, Farm Credit Administration, Washington, D. C.



NORTH CAROLINA—Peach by-products until recently have included everything but the fuzz. Now comes the report that 300 pounds of the "itching dust" were sold by J. E. Sparger, owner of one of the largest commercial peach orchards in Mount Airy. The thought comes to mind that the group of University of North Carolina students who purchased the pure peach fuzz may have obtained the "itch" to conduct an initiation.

WISCONSIN—There is a decided tendency toward the growing of better quality varieties of apples throughout Wisconsin and Minnesota. Some growers have top-worked Duchess, Dudley and even Wealthy to McIntosh, Cortland, Starking and Macoun. Wealthy, as well as other poor quality varieties of that season, seems to be in the discard.—H. J. RAHMLow, Sec'y, Madison.

SOUTH DAKOTA—Clarence Satnan, who now owns much of the large orchard at Sioux Falls planted by the late Mr. Kincade, won first award on Wealthy and Delicious and third on Northwestern Greening at the State Fair.—W. A. SIMMONS, Sec'y, Sioux Falls.

RHODE ISLAND—This summer's severe drought was broken about the middle of August by heavy rains, which in some cases caused severe washing of fruit land. For the first time, Rhode Island growers are experiencing on a large scale internal cork of apples. McIntosh and Cortland varieties are particularly involved, but cork has also been found in Delicious and to a slight extent in Baldwin.



The "X"-disease has not been found in peaches in the State, although the disease in the chokecherry has been found in a number of places. Peach growers are carefully eliminating all chokecherries within a reasonable distance of their orchards in an effort to prevent this disease of peaches from becoming established in their orchards.

It appears now that the loss of trees from the September, 1938, hurricane may be less than was at one time anticipated. In general, the fruit trees which were pulled up and securely braced shortly after the hurricane have come through this season in remarkably good condition in spite of the drought.—E. P. CHRISTOPHER, Sec'y, Kingston.

AMERICAN FRUIT GROWER

UTAH—Swinging south from Brigham City and covering the stretch of over 100 miles to Springville rolled a cavalcade of automobiles carrying keen, analytical observers who obtained first-hand information on this "Business of Growing and Handling Fruit." The 100 growers who took part in the two-day tour arranged by the Utah State Horticultural Society in co-operation with the college extension service, visited 25 places en route, including orchards, packing sheds, a co-operative setup and a quick freezing plant for fruit where the growers had an opportunity to sample frozen cherries, apricots and berries. Judge J. A. Howell, president of the society, was the congenial host during the stop at his apple packing shed near Ogden.—A. STARK, Sec'y, Logan.

MASSACHUSETTS—Proper storage of apples on the farm makes possible the delivery of good fruit in prime condition to the consumer. Bulletin 360, entitled, "Farm Storage for New England Apples," attempts to aid the producer in that accomplishment. The publication is available upon request from the Massachusetts State College, Amherst.



TENNESSEE—J. C. Patrick of Fayetteville was elected president of the State Horticultural Society at its recent meeting. W. C. List, Sale Creek; J. Blaine Donoho, Portland, and H. B. Landess, Memphis, were elected vice-presidents for their respective divisions. G. M. Bentley, Knoxville, was elected secretary-treasurer. According to our best information, this society was organized "about 1890," so the coming year will mark our 50th anniversary.

Prof. Bentley at the time of our next meeting will have completed 25 years of service as secretary-treasurer.

Since the opening of Tennessee's first locker storage at Gallatin two years ago, six others have been placed in operation. Additional ones are contemplated and the advent of TVA power promises to make them still more popular. J. N. Peay, fruit grower of Goodlettsville, has demonstrated a prime function of locker storage this year. Up until the movement of his fine crop of Latham raspberries reached the peak of 100 crates daily, local demand and truckers absorbed the output at profitable prices. The peak arrived on a weekend and demand was dull. Rather than lower the price, he placed one day's "pick"—at perfection of ripeness and condition—in quart and pint cartons under sharp freezing in locker storage. Monday found an improved demand and the price level had been maintained.—A. N. PRATT, State Horticulturist, Nashville.

MISSOURI—An apple labeling law was recently passed by the Missouri legislature. The law requires variety, grade and minimum size labeling of all apples sold, offered or exposed for sale in Missouri, regardless of the State of origin. It applies to all apples whether offered in retail or wholesale lots, in bulk or in closed packages.

PEACH VARIETY SURVEY

(Continued from page 9)

ically stated that he believed 95 per cent of the existing varieties should be discarded. Others were a little more lenient, suggesting dropping only those types that are not of commercial importance. Because the long list of varieties mentioned for discard has been influenced to some degree by performance and grower acceptance in specific localities, their mention here would be unfair. The fact remains, however, that certain varieties are definitely on the road out, that more will be hauled to the bonfire as new varieties are introduced and as those new types already being tested prove that they are worthy of commercial use.

Eight times as many nurseries indicated that their customers are not asking for trees on dwarf stocks as those who report that growers are interested in dwarf peaches.

One-year stock is by far the most popular size for planting. Less than a twelfth of the nurseries reporting said that they are selling more two-year trees than one-year.

Nurserymen as a group are skeptical as to what variety might replace Elberta as the leading peach. So many factors, such as time of ripening, hardiness, bearing habits, long life, etc., have to be considered that most plant producers say there is no substitute now for the country's No. 1 peach, or that it's too early to tell yet what might be a new leader. Of the varieties that were mentioned, Halehaven, South Haven and Redelberta are outstanding contenders.

To the question as to what interest their grower-customers are showing in nectarines, nurserymen gave a hodgepodge of answers which ranged from no interest to "very much interest." As compared to peach planting, though, nectarine setting is practically at a standstill, even with some sections reporting increased attention being given this fruit.

PEACH BORER CONTROL

Reports from widely scattered localities indicate that ethylene dichloride emulsion is becoming increasingly popular as a control for peach tree borers. When diluted according to manufacturers' directions, this material may be safely used on trees of any age. The emulsion is active at low soil temperatures, thus making its application possible late in the fall and early in the spring when it is too cold for paradichlorobenzene to be effective. Just as good results are obtained when the material is poured around and on trees as when a sprayer is used, although the latter method makes for speedier application.

OCTOBER, 1939

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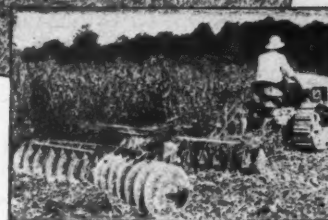
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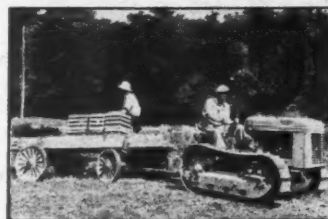
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The 1300-acre Chazy Orchards at Chazy, N. Y., are capably managed by Jay Gelder, who also operates in connection with the orchards a roadside stand nationally recognized as an outstanding enterprise.

FRUIT LEADERS IN NEWLY ORGANIZED "CHAMPION FARMERS ASSOCIATION"

LEADERS in various fields of the fruit industry have been honored by membership in the recently organized "Champion Farmers Association of America." Among those representing the fruit growing industry are: Jay Gelder, manager of the Chazy Orchards, Chazy, N. Y.—the largest McIntosh orchard in the world; Paul Stark, Stark Bro's Nurseries & Orchards Company, Louisiana, Mo., brother of Missouri's governor and one of the best-known orchard men in the United States; Ralph McUmber, "strawberry king" of Greenfield, Tenn.; William F. Fordon, Geneva, N.Y., and Morris Buerman, Sodus, N.Y.

The association is composed of 100 of America's farm champions. The fruit champions, with their fellow farm champions, were selected during

the past year and a half on the basis of their production records and from state and national citations which brought them to the top among the outstanding farmers of America. During the period of their selection a radio interview with each one was broadcast over the nationwide hookup of Firestone's Voice of the Farm program.

During National Farm Week the Champion Farmers traveled over 220,000 miles from 24 states to assemble at the New York World's Fair as guests of The Firestone Tire & Rubber Company. At an outdoor banquet in the World's Fair farm garden exhibit held in their honor, Leonard K. Firestone presented bronze medallions to all of the Champion Farmers in recognition of their distinguished contributions to agricultural progress.

A yellow-free strain of Blakemore strawberries has been developed and propagated by champion farmer Ralph McUmber of Greenfield, Tenn. In addition to 33 acres in strawberries, McUmber has 54 in tree fruits.



NEW PEACH INDUSTRY.

(Continued from page 7)

625,000 peach trees were planted, in 1937-38 over 400,000 trees, and this past season at least three-quarters of a million more. Today, South Carolina has at least 3,000,000 trees, one-half of which have not reached bearing age. Spartanburg County alone has one-half of the peach acreage of the State.

During the last four seasons the number of trees planted have been much greater in the Piedmont and Ridge sections than in the Sandhills. The chief reasons for this are that peach trees in the Sandhill sections are relatively short-lived, 15 years being about the average life of an orchard. The soil there is largely a deep, coarse Norfolk sand. Several root rots, winterkilling, and nematodes have contributed to a rather high mortality of trees. The so-called "winter-killing" which occurs is not so much due to low temperatures as to cold March weather following a warm period in February. It is generally recognized that even this condition is not alone responsible for the loss of trees, but that low fertility, drought and injury from root rots, etc., are contributing factors.

Most of the soil planted to peaches in the Piedmont region is considerably heavier and more fertile than that of the Sandhills, and the trees are much longer lived. An orchard near Greer owned by Mrs. J. V. Smith is now in its thirty-eighth year and the majority of these trees are still in vigorous condition and producing good crops. It is generally agreed that orchards in this section which have the proper care should produce good crops up to at least 25 or 30 years of age. In the heavier soils of the Ridge section, trees are also long lived. Here are found some of the highest yielding orchards in the State.

There have been only two crop failures in the Piedmont section of South Carolina since 1912. The last year a crop failure occurred was in 1927, making a continuous period of 12 years in which good to large crops have been produced. Of course, there are some orchards that are located on poor sites and they have lost crops a number of times during the past eight or 10 years, but the majority of the South Carolina orchards are well located, and unless frost or late freezes occur quite late, they are little damaged.

Practically all orchards in the South Carolina Piedmont are terraced. The land planted to peaches in this section is gently rolling to fairly steep, with a few orchards on sites which have as much as a 14 to 16 per cent slope. Most of the orchards, however, are on slopes of less than 12 per cent. In most cases the terracing is done before

(Continued on page 18)

OCTOBER, 1939



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PAGE 17



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PAGE 18

NEW PEACH INDUSTRY

(Continued from page 17)

the trees are planted, or the contours are laid out and the trees planted along them and afterwards the terraces developed. Sometimes master terraces are built between the rows at whatever interval is necessary, depending upon the degree of slope and other factors, adequately protecting the orchard site until such time as every tree row has its own terrace or ridge, resulting from plowing or disking to the tree rows one or more times each year.

During recent years the terracing practices adopted by the Soil Conservation Service in the Southeast have been followed in much of South Carolina. At the proper interval Nichols type terraces are first constructed. One tree row is then located on the terrace ridge 10 feet below the water channel and another 14 feet above. All rows between the terraces are planted on small contour ridges which are developed during the following few years into small terraces. Under conditions of heavy rainfall which occur normally during both summer and winter, contour planting and terracing on easily erodible soils is the most practical method of controlling soil erosion and thus preserving the soil for future use after the present peach orchards have been removed.

Not many orchards are planted on the contour in the Sandhills, while in the Ridge section orchards on slightly rolling land are planted in this manner. The growers of other crops have practiced terracing and contour planting for many years in this State and it is only natural that peach growers should follow the same practice.

A natural corollary of terracing and contour planting is the growing of cover crops. For bearing trees under southern conditions the growing of a winter cover crop is considered more important than in the North because the soil seldom freezes and if a ground cover is not present during the winter, nearly as much erosion can take place as during the summer. Hairy vetch, Austrian winter peas and rye are the principal winter cover crops grown. On most orchard soils it is necessary to fertilize the cover crops with phosphoric acid and potassium in order to get an abundant growth to turn into the soil the following spring.

During the first two or three years in the life of an orchard, summer cover crops are generally grown if some cash inter-crop is not planted. Cowpeas or soybeans are generally used, except in the Sandhills, where Crotalaria is more common.

South Carolina peach orchards are generally clean cultivated up until the middle of June or first part of July, although there is a growing tendency,

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Catalog

Col. J. M. Sellers, Superintendent

OCTOBER, 1938

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backed by some new research, to shorten the cultivation period. As a rule, crab grass begins to grow after cultivation ceases and in the absence of a planted cover crop forms a good cover until the winter crop is sown. The complete system of contour planting, fertilization and growing of cover crops, together with a common-sense system of pruning, combines to make the majority of the South Carolina orchards excellent producing units in which the trees are healthy, vigorous and long-lived.

The importance of light to moderate pruning of one and two-year-old trees is demonstrated by the large yields obtained by many growers the third summer after planting. Just enough pruning is done to keep the centers sufficiently open and to keep the tree well shaped. By so doing, assuming cultural and fertilizing practices are satisfactory, it is possible to produce a large yield of fruit on young trees. For example, W. L. Tinsley in Spartanburg County obtained a yield of two to two and one-half bushels per tree the third summer. J. L. Cannada in Greenville County produced up to three and one-half bushels per tree on the same age trees. The South Carolina Experiment Station has produced similar yields on a number of varieties.

Quite a significant number of South Carolina growers are obtaining yields of a carload or more per acre. Of these, L. D. Holmes in the Ridge section and S. J. Craig in Laurens County in the Piedmont have been among the outstanding growers. On the average, however, yield per acre in good years is about three-fourths car.

A majority of the South Carolina growers have co-operated fully with the State Experiment Station and the Extension Service. Most of them have up-to-date equipment, including good spraying outfits of sufficient capacity. Cultivation is done largely by tractor power, often using the power take-off for operating sprayers. Not many years ago the grower who defuzzed his peaches obtained a premium of 10 cents or more per package. During the past season the grower who did not follow this practice was penalized 15 to 20 cents or more per package. Most growers have anticipated this contingency and few unbrushed peaches now leave the State.

When the increased planting of peaches began in 1921-22, a number of the growers realized that the marketing of their fruit was just as important a problem as its production. As a result, the South Carolina Peach Growers Association was organized in 1924 and in that year marketed 27 cars. Since that time, patronage of the association has steadily increased, 1425 carloads of U. S. No. 1 fruit being marketed in 1939. The associa-

(Continued on page 20)
AMERICAN FRUIT GROWER

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WILL HAVE MILLIONS YELLOW FREE BLAKEMORE Strawberry Plants for setting Spring of 1940. Write for prices. R. R. McUMBER, Greenfield, Tennessee.

NEW PEACH INDUSTRY

(Continued from page 19)

tion is also a buying agency for supplies and equipment.

At some time during the season peaches from Georgia, North Carolina, Arkansas and Tennessee compete with South Carolina's crop for a market. In seasons when ripening progresses normally from south Georgia northward, the markets can absorb the crop with little effect on price, but in years when the Elberta crop ripens in all these states at practically the same time, this competition becomes a more serious problem.

A number of varieties are grown but the Elberta is still the chief commercial sort. In Spartanburg County over 80 per cent of the trees are Elberta, about seven per cent Golden Jubilee and around three per cent Hiley. Over 30 per cent of the trees in the Ridge and Sandhills sections are Elberta. Hiley is next in importance with over 25 per cent of the acreage. In the Ridge section, Early Rose, comprising 16 per cent of the trees, is planted more extensively than in other parts of the State. While a few orchards of Halehaven and other new and promising varieties have already been planted, the trend away from Elberta is still comparatively slow. Growers are watching with interest variety trials being conducted by the State Experiment Station.

NEW

By HANDY ANDY

People who like to read are having a real treat as a result of the recent introduction of inexpensive editions of popular fiction stories and modern fact books. The new "Pocket Books" sell for 25 cents and include many well known fiction titles. "Penguin Books" sell for the same price. They are imported from England. These smaller books have paper covers and the stories they contain are complete. Clothbound "Modern" books feature more than 280 titles and are priced at 95 cents.

PAPER CONTAINERS •

On a recent trip through Michigan I stopped in at the American Box Board Co., Grand Rapids, for a visit with C. Bartlett Sprague who is doing a good deal of work on the development of fruit containers. My visit was just at the right time for he showed me some new paper-board boxes he's made for the Michigan apple trade and which are also available



to growers in other sections. Photos with this item show the bushel box, half-bushel box and carry-out carton.

The bushel box is delivered flat, to be assembled and glued. Wooden corner posts insure strength. Use of these boxes has increased load limits over baskets by from 32 to 35 per cent. On any order over 500 bushel units the name, brand and



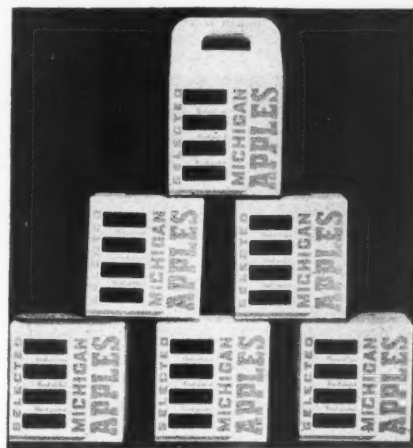
location of the grower are printed on the boxes at no extra charge. The container will be printed with a stock design for growers outside of Michigan or for a small sum growers can have their private designs made into printing plates for reproduction on the containers.

OCTOBER, 1939

- PAPER CONTAINERS
- FIRE EXTINGUISHER
- ALUMINUM CONVEYOR

Construction of the half-bushel box is the same as the bushel container.

A new method of quick assembly features the five-pound carry-out apple package. For shipment, these are packed eight



to a corrugated unit. The small package is waxed on the inside to cut down burn and scald injury in storage or retail outlet. Windows on the sides permit ventilation and visibility of contents.

FIRE EXTINGUISHER •

There are so many potential causes for fires around fruit packing sheds, storages and even fruit farm homes that the use of a good fire extinguisher is almost a necessity. The Corono extinguisher is the result of an entirely new idea. It consists of a hand pump that screws on top of a can of carbon tetrachloride. When called into use, the top of the can where the pump fits on is punctured and the bottom of the can also for release of the chemical. As the pump is worked a stream of the fire-smothering liquid is directed toward the flames. Unless used, there is no need for periodical recharging of this handy extinguisher. Refills are available.

The place of zinc sulphate in the fruit business is covered in a booklet just released by the Tennessee Corporation. It tells of ways by which zinc sulphate helps in the successful production of peaches, pecans, citrus fruits and tung products. An especially interesting part of the booklet explains control measures for pecan rosette.

ALUMINUM CONVEYOR •

Because they save so much time and labor in fruit packing operations, conveyors have become standard equipment in packing houses, large and small. Now there's a new conveyor that saves time and labor in moving conveyors from place to place as needed. It's made of aluminum and is just as strong, according to the Aluminum Ladder Co., who makes it, as the regular steel kinds. Each 10-foot length of this new conveyor weighs only 45 pounds. Lengths are made with or without wheels.

AMERICAN FRUIT GROWER

IT'S OKAY,
JOHN - I KNOW
YOU'RE GOING TO
USE MY SANI-FLUSH
BEFORE YOU PUT IN
ANTI-FREEZE!



Don't put anti-freeze in a radiator that will clog up and overheat. Flush out rust, sediment, scale and sludge with 10c worth of Sani-Flush (25c for the largest trucks and tractors).

It's easy to do yourself. Just pour in Sani-Flush. Run the engine, drain, flush and refill (directions on the can). Or, if you prefer, ask your garage or service station to do the job for you with Sani-Flush. Sani-Flush cannot injure motor or fittings. It keeps radiators clean and cool. Saves power and fuel. You'll find Sani-Flush in most bathrooms for cleaning toilets. Sold by grocery, drug, hardware, and five-and-ten-cent stores. 25c and 10c sizes. The Hygienic Products Company, Canton, Ohio.

Sani-Flush *Safe* NOT CAUSTIC
KEEPS RADIATORS CLEAN

SELL SOAP

Complete Outfit FREE!

Own a steady route; full or spare time. Make money at once and all year 'round with Soaps and many other daily home necessities—over 200 nationally known, guaranteed products. Complete outfit, including large assortment of full size packages—FREE to reliable persons. Old-established company. Write quick for my Free Offer. E. J. Mills, 7989 Monmouth Ave., Cincinnati, O.



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COPPER FUNGICIDES

for Fungus Control of
Fruits and Vegetables

Tennessee Corporation's extensive research has developed an improved series of copper fungicides with these advantages:

- Varying strengths (26% to 53% copper) for specific treatment of various fungus diseases.
- Incorporation of new materials for greater safety and more effective control.
- Greater covering power and adherence, with lighter visible spray residue and less injury to plant.
- Carefully controlled toxicity and maintenance of colloidal state of material.

Consult your spray material dealer or write direct to:

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Box 2205 Atlanta, Ga.

SUCCESSFUL ORCHARDS

● A "ROUND TABLE" PAGE FOR EVERY GROWER ●

DEVICES MOVABLE FRUIT DISPLAY RACKS

MOTORISTS in western Michigan are attracted to the roadside market of the Edwin House orchard. Mr. House, well-known for his cherry cider and "Cherri-Mix," has placed in charge of this market Mr. and Mrs. Clayton Van Leween who live right at the roadside salesroom during the marketing season. Mr. Van Leween has worked out something in the way of a display rack that should interest all growers having this type of market. He says:

"One of the biggest jobs on the old stand we had was to move fruit into the back of the market for repacking and then carry it again to the front to be placed on the display racks. It occurred to me one day that we could just put casters on the display racks and move them instead of the individual fruit containers. So far, this plan has worked out fine. When the sun becomes hot enough to cause injury to the fruit in the afternoon we just roll the racks back until they are shaded. At night, the racks are pushed into the market building and are ready for repacking the next morning. We try to check over all fruit on the racks every morning to remove culls from the previous day's unsold stock. Our customers depend on us to supply quality fruit."

PEAT MOSS USED FOR SETTING PEACH ORCHARD

"**W**E tried something a little different this year," reports Bernard Mumma, one of the operators of the Mumma Orchards in south central Ohio. He goes on to say that "when we were working out plans for setting a large block of peach trees this spring, we decided to test the use of peat moss when the trees are planted. To carry out this plan we purchased more than 60 bales of the type of peat moss that is recommended for fruit

tree planting. When the trees were set, we used peat moss for about every 10 rows. We believe that by staggering the rows in this manner we will be able to have a real test on the results from using the peat for newly planted orchards. The peat was dampened and then mixed with the soil as the trees were planted."

\$1.00

EACH FOR YOUR NEW IDEAS

Here, each month, growers get together to discuss experiences and ideas. The beginner as well as the veteran discovers many practical suggestions for better and more profitable fruit growing. You, too, have some experiences that will be helpful to fellow growers. Send them—briefly written on a penny card is satisfactory—to "ROUND TABLE EDITOR," AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio. One dollar will be paid for each item published on this page.

BAGGED APPLES ATTRACT CONSUMERS AND RETAILERS

FROM time to time we are glad to welcome the ideas and experiences of fruit marketing men. Paul Lagomarcino, a prominent wholesaler of Davenport, Iowa, writes:

"We were quite successful last year in handling Winesap apples in mesh bags, although we went into the deal with considerable fear because nothing like this had been attempted before in our section.

"We ordered a car of the Winesaps in mesh bags for one of our branch houses as an experiment and to our surprise we found that the trade took them readily. Repeat orders followed. Cars were taken on by our other branches and we had the same experience so that by the time the deal was over we had handled a total of 17 cars. The package seemed to attract the consumer and the retailer as well."

RECORD OF CUSTOMERS HELPS SELL FRUIT

SOMETHING new in the way of fruit farm retail selling is outlined by Wisconsin orchardist A. G. Hultquist.

"When selling fruit we have found that it pays to keep a record of the name and address of every person we sell to during the season.

"These names and addresses are written or typed on sheets of paper which are attached to the boxes or baskets of fruit that are prepared for sale. We've found that the names of previous customers stimulates the sale of more fruit."

Left—Edwin House (left) helps Mr. and Mrs. Clayton Van Leween arrange fruit on one of the movable display racks described by Mr. Van Leween on this page. Below is shown method of loading cars with bagged apples. Paul Lagomarcino tells of his bagged apple marketing experience in above item.



BETTER ORCHARDS

(Continued from page 11)

fall and letting it lay open over winter is a practice that is being followed in some sections.

Advocates of fall planting base their claims on the development of roots before extremely low temperatures occur. Those who are in favor of spring setting say that fall planting may result in winter injury, due to the mechanical action of heaving or actual physical injury resulting from cold and the stunted development of roots in early spring because of excess soil moisture and a high water table. A note of warning is sounded by Dr. H. B. Tukey of the New York Experiment Station when he says that, "Too deep planting, and there is more than there should be, is dangerous, particularly in a wet year. The practice, in sections where heavy soils and high water table prevail, of making a mound of soil on top of the ground and planting the tree in it is suggestive at least."

Balancing of the top with the roots is the main object of postplanting pruning of the tops of newly set trees. Roots are trimmed, sometimes severely, in the transplanting operation and to obtain best growth the tops must be cut back in relation to the existing root system. Most specialists agree that there should be as little cutting as possible and still maintain the root-top balance. Select the scaffold branches if the trees are heavily branched at time of planting and remove broken or injured wood. Trimming before setting amounts to cutting out broken and long, straggly roots.

New and replacement fruit planting amounts to thousands of trees and plants every year. How many of these thousands of plants have a full life expectancy depends, first of all, on the attention growers give to site selection, planting methods and after planting care. High fruit tree mortality, avoidable in nine cases out of 10 if care is exerted, comes during the first few years of the planting.

During the course of a year AMERICAN FRUIT GROWER receives hundreds of letters and inquiries from subscribers. Sometimes an important inquiry is unsigned or the writer has failed to give his location. The letter consequently goes unanswered. If by chance you have written us and your letter has not been acknowledged, please write us again, making sure that your letter contains both your signature and your full address.

"I plow 2 inches deeper... USE 31% LESS FUEL with high compression"



says M. L. Pace, of
Owego, N. Y., who
also filled 21 silos at
a cash profit last year



"We would never return to the old low compression type of tractor," says Mr. Pace, shown here with his new high compression Massey-Harris 101.

IMAGINE PLOWING eight inches deep and using less than a gallon and a half of fuel per acre . . . filling silos with corn and using 1.2 gallons of fuel per hour!

That's the kind of performance O. L. Pace and Son of Owego, N. Y., are getting from their new high compression Massey-Harris 101 tractor, mounted on rubber and burning regular-grade gasoline. Compared with their former low compression tractor, designed to burn all fuels, this performance represents a 31% fuel saving in plowing, a 52% saving in silo filling.

Here's what M. L. Pace says: "To give an example of how the new tractor works, we plowed 15½ acres of loam ground about eight inches deep in 11 hours on 22 gallons of regular-grade gasoline. The old low compression tractor used 32 gallons for the same job and we plowed only 6 inches deep.

"Also, we do our own farming so much faster that we now have time to use our new tractor to bring in additional revenue from outside work. Dur-

ing silo filling-time last fall, we filled 21 silos with corn. That cash income made the difference between profit and loss on our farm last year. In 145 hours of filling, besides many mows, the high compression tractor used 174 gallons of gasoline—about 1.2 gallons per hour. The old low compression tractor used 2½ gallons of fuel per hour for the same work."

You can do more work faster and save on fuel with a high compression tractor. Here's how most low compression tractors can be changed over to high compression: Install "altitude" pistons or a high compression cylinder head. Change the manifold setting or the manifold to the "cold" gasoline type and use "cold" type spark plugs. Use regular-grade gasoline (containing tetraethyl lead).

When you buy a new tractor, be sure the engine is of the high compression type designed to give you extra power and economy when using regular-grade gasoline. Ethyl Gasoline Corporation, Chrysler Building, New York, N. Y., manufacturer of anti-knock fluids used by oil companies to improve gasoline.

THIS MONDAY NIGHT... Tune in "Tune-up Time," featuring Andre Kostelanetz, Tony Martin, Kay Thompson, Columbia Broadcasting System, 8 P.M., E.S.T.; 7 P.M., C.S.T.—10 P.M., M.S.T.; 9 P.M., P.S.T.

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There are PROFITS for You on every page of this Big FREE Stark Book—it is packed with valuable fruit-growing information and help—it tells the facts about men in all parts of the country who are making AMAZING Successes with Stark & Burbank New & U. S. Pat. Fruits. Join their ranks—you can do it, too; there is a shortage of millions of fruit trees—the market is begging for the Prize Fruits grown on STARK High-Quality Trees—and paying TOP PRICES for them. Don't let YOUR Opportunity pass—mail Coupon Now for this Big FREE Stark Fruit Book.

You don't need a big tract of land to share in these Great Profits—among the pages and pages of signed reports of Big Yearly Cash Incomes are many from men with small plots of land: "\$500.00 from one acre"—"\$600.00 from 2 1/2 acre"—even \$200.00 from a town lot after the family had taken all the fruit they could use. Many had little or no orchard experience until they got the Big FREE Stark Book—they built their Success on STARK Sturdy Young-and-Heavy-Bearing Trees. Get the STARK Book—mail the Coupon TODAY.

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Such a magnificent collection of the World's Prize Fruits has never before been gathered in the pages of one book. Each page over a foot long—filled with newest, Exclusive Stark & Burbank fruit creations—over 300 pictures in glowing actual colors (by color photo). You can grow them—You can have the Wealth they bring—You can make Big Cash Profits as thousands of others are doing. See STARKING, Improved Double-Red Delicious Mammoth Champion of All Red Apples, solid flashing red-all-over weeks ahead, the best seller at Top Prices in all markets—GOLDEN DELICIOUS, Queen of All Yellow Apples, youngest, heaviest bearer of all, bringing highest prices—HAL-BERTA GIANT, World's First Patented Peach, enormous, delicious red and gold—ELEPHANT HEART Plum, Burbank's giant red-fleshed freestone. The Big STARK Book also shows Burbank's New JULY

ELBERTA, sensational early high-quality red-cheeked yellow freestone that is revolutionizing peach growing—Stark EARLY GIANT Grapes (New, U. S. Pat.)—and scores of other varieties—with astonishing records of early bearing, bumper crops and Highest Market Prices—Profit Producers that pile up CASH Income for you. Mail Coupon below for the Big STARK Book of Prize Fruits—Shrubs—Roses. It's FREE!

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Don't let lack of experience scare you—STARK will help you! Get our New FREE Home Orchard Guide with Planting Plans—complete instructions, simple diagrams make it easy for anyone to grow Stark & Burbank Prize Fruits. Check Coupon to receive this FREE Home Orchard Guide—it gives the benefit of 124 years of experience to help you to Big Cash Profit Success!

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FREE The Big STARK Fruit Book has a large section showing in living colors the latest marvels in Stark & Burbank Roses, Shrubs, and other ornamental beauties—the famous, fragrant COPPER CLIMBER, SNOWWHITE, GOLDEN SUNSET Climbing Roses, Burbank's Wonder Tree, the double Rose-Flowering Peach (all U. S. Pat.) and many others shown only in STARK'S Big Book. Be sure to check Coupon also for STARK'S Prize Garden Manual—it's FREE—every lover of beautiful home-grounds should have it—invaluable aid in landscaping, arrangement, care of ornamentals. FREE TREES! Get STARK'S Big New Money-Saving Offer! Our latest, most liberal offer of FREE Stark Trees is open to every Stark customer. Details come with the Big Stark Fruit Book. Increase your STARK planting without extra cost! Check Coupon.

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P. O. _____ County _____
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